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10/014,452	12/14/2001	Ralph A. Mosher	D/A1286	1083

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EXAMINER

RHEE, JANE J

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,452

Applicant(s)

MOSHER ET AL.

Examiner

Jane J Rhee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-19 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-19 and 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1,4,7-11,18-19,21,22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al. in view of Arnold et al. (4663371).

Parker et al. discloses an endless seamed flexible belt comprising a first end and a second end (figure 1) each of the first end and the second end comprising a plurality of mutually mating elements which join in an interlocking relationship to form a seam (figure 1 number 11), the belt comprising a polyimide substrate (col. 5 line 18) and the seam comprising an adhesive comprising a polyamide (col.8 lines 39-42,53-68). Parker et al. discloses that the belt is an intermediate belt (col. 1 lines 48) and electrographic imaging apparatus and processes for use as photoreceptors, intermediate sheet and or image transport devices (col. 1 lines 46-49). Parker et al. discloses that the plurality of mutually mating elements are in the form of a puzzle cut pattern wherein the mutually mating elements comprise a first projection and a second receptacle geometrically oriented so that the second receptacle on the first end receives the first projection on the second end and wherein the first projection on the first end is received by the second receptacle on the second end to form a joint between the first and second ends (figures 2-5).

Parker et al. fail to disclose a plasticizer selected from the group consisting of alcohols, amines, thiols, organic acids, oligomers and mixtures thereof. Parker et al. fail to disclose that the plasticizer is selected from the group consisting of bisphenols, paratoluene sulfonamides, phosphates, esters, castor oil, and mixtures thereof. Parker et al. fail to disclose that the adhesive is crosslinked using oxalic acid as a crosslinking agent. Parker et al. fail to disclose that the polyamide comprises pendant groups selected from the group consisting of methoxy, ethoxy and hydroxy pendant groups. Parker et al. fail to disclose that the pendant groups are methylene methoxy pendant groups. Parker et al. fail to disclose that the polyamide has a general formula wherein in the constituent of nitrogen consists of hydrogen, alkyl having from about 1 to about 20 carbons, alkoxy having from about 1 to about 20 carbons, alkyl alkoxy having from about 1 to about 20 carbons and alkylene alkoxy having from about 1 to about 20 carbons, and wherein n is a number of from about 50 to about 1,000. Parker et al. fail to disclose that the nitrogen constituent is methylene methoxy group.

Arnold et al. teaches that the adhesive comprises polyamide and a plasticizer, bisphenol for the purpose of to increase the adhesion of the polyamide (col. 3 lines 59-61). Arnold et al. teaches that the adhesive is crosslinked using oxalic acid as a crosslinking agent for the purpose of adjusting the viscosity of polyamide polymer to the desired viscosity polymers (col. 2 lines 40-41). Arnold et al. teaches that the polyamide comprises methylene methoxy pendant groups and that the polyamide has a general formula wherein in the constituent of nitrogen consists of hydrogen and a methylene

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methoxy group (col. 2 line 65) for the purpose of creating an improved adhesive composition (col. 1 lines 6-7).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. with the adhesive that comprises polyamide and a plasticizer, bisphenol in order to increase the adhesion of the polyamide (col. 3 lines 59-61) as taught by Arnold et al.

Also, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. with the adhesive that is crosslinked using oxalic acid as a crosslinking agent in order to adjust the viscosity of polyamide polymer to the desired viscosity polymers (col. 2 lines 40-41) as taught by Arnold et al.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. with the polyamide that comprises methylene methoxy pendant groups and that the polyamide has a general formula wherein in the constituent of nitrogen consists of hydrogen and a methylene methoxy group (col. 2 line 65) in order to create an improved adhesive composition (col. 1 lines 6-7) as taught by Arnold et al.

2. Claims 5-6,12,14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al. in view of Arnold et al. and in further view of Schlueter Jr. et al. (5942301).

Parker et al. and Arnold et al. disclose the endless seamed flexible belt described above. Parker et al. and Arnold et al. fail to disclose that the plasticizer is present in the adhesive in an amount of from about 0.1 to about 80 percent by weight of total solids. Parker et al. and Arnold et al. fail to disclose that the adhesive further comprises electrically conductive fillers. Parker et al. and Arnold et al. fail to disclose that the conductive filler is selected from the group consisting of carbon fillers, metal oxide fillers, polymer fillers, charge transporting molecules and mixtures thereof. Parker et al. and Arnold et al. fail to disclose that the carbon filler is selected from the group consisting of carbon black, graphite, fluorinate carbon, and mixtures thereof. Parker et al. and Arnold et al. fail to disclose that the electrically conductive filler is a metal oxide filler selected from the group consisting of titanium dioxide, tin oxide, indium tin oxide, iron oxide aluminum oxide, and mixtures thereof.

Schlueter Jr. et al. discloses that the plasticizer is present in the adhesive in an amount of from about 0.1 to about 80 percent by weight of total solids (col. 10 lines 14-22) for the purpose of providing a preferred adhesive for joining the ends of the belt (col. 10 line 14). Schlueter Jr. et al. discloses that the adhesive further comprises electrically conductive fillers (col. 6 lines 50) and that the conductive filler is selected from the group consisting of carbon fillers, metal oxide fillers, polymer fillers, charge transporting molecules and mixtures thereof (col. 9 lines 6-17) wherein the carbon filler is selected from the group consisting of carbon black, graphite, fluorinate carbon, and mixtures thereof (col. 9 lines 10-11) and wherein the electrically conductive filler that is a metal oxide filler selected from the group consisting of titanium dioxide, tin oxide, indium tin

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oxide, iron oxide aluminum oxide, and mixtures thereof (col. 9 lines 5-10). for the purpose of exhibiting high mechanical strength providing heat-conducting properties this in turn improves the thermal efficiency of a fusing system employing the belt and possessing tailored electrical properties (col. 5 lines 3-6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. and Arnold et al. with the plasticizer that is present in the adhesive in an amount of from about 0.1 to about 80 percent by weight of total solids in order to provide a preferred adhesive for joining the ends of the belt (col. 10 line 14) as taught by Schlueter Jr. et al.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. and Arnold et al. with the adhesive further comprises electrically conductive fillers wherein the conductive filler is selected from the group consisting of carbon fillers, metal oxide fillers, polymer fillers, charge transporting molecules and mixtures thereof, wherein the carbon filler is selected from the group consisting of carbon black, graphite, fluorinate carbon, and mixtures thereof and wherein the electrically conductive filler that is a metal oxide filler selected from the group consisting of titanium dioxide, tin oxide, indium tin oxide, iron oxide aluminum oxide, and mixtures thereof in order to exhibit high mechanical strength providing heat conducting properties this in turn improves the thermal efficiency of a fusing system employing the belt and possessing tailored electrical properties (col. 5 lines 3-6) as taught by Schlueter Jr. et al.

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al., Arnold et al., and Schlueter Jr. et al. in view of Yamasaki (5863626).

Parker et al., Arnold et al. and Schlueter Jr. et al. disclose the belt described above. Parker et al., Arnold et al. and Schlueter Jr. et al. fail to disclose that the electrically conductive filler is a quaternary ammonium salt. Yamasaki teaches that the electrically conductive filler is a quaternary ammonium salt for the purpose of creating an electrically conductive polyurethane foam (col. 1 lines 24-25).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al., Arnold et al. and Schlueter Jr. et al. with the electrically conductive filler is a quaternary ammonium salt in order to create an electrically conductive polyurethane foam (col. 1 lines 24-25) as taught by Yamaski.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al., Arnold et al. and Schlueter Jr. et al. in view of Pistoia (6322927).

Parker et al., Arnold et al. and Schlueter Jr. et al. disclose the belt described above. Parker et al., Arnold et al. and Schlueter Jr. et al. fail to disclose that the electrically conductive filler is a polymer filler such as polypyrrole. Pistoia teaches that the electrically conductive filler is polypyrrole (col.8 lines 13-14) for the purpose of creating a cell (col. 7 line 66).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al., Arnold et al. and Schlueter Jr. et al. with the electrically conductive filler that is a polymer filler such as

polypyrrole in order to create a cell comprising a variety of electrolytes, current collectors and cathode compositions (col. 7 line 66).

Response to Arguments

5. Applicant's arguments with respect to claims 1,4-19,21-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane J Rhee whose telephone number is 703-605-4959. The examiner can normally be reached on M-F.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 703-308-4251. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Jane Rhee
July 30, 2003



NASSER AHMAD
PRIMARY EXAMINER
Acting SPE